

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-19. (Canceled)

20. (New) Data recording device comprising a two-dimensional array of microtips, arranged in a plane opposite a storage medium, and electronic means for addressing and controlling the microtips so as to enable data recording on the storage medium, the storage medium comprising a flexible diaphragm borne by a frame forming a plurality of cells, at least one micro-tip being associated with each cell.

21. (New) Device according to claim 20, wherein the microtips have an apex of nanometric dimensions.

22. (New) Device according to claim 20, wherein the cells are rectangular.

23. (New) Device according to claim 20, wherein the cells are hexagonal.

24. (New) Device according to claim 20, comprising two arrays of microtips arranged on each side of the storage medium.

25. (New) Device according to claim 24, wherein the two arrays of microtips are laterally offset so that the microtips associated with any one cell of the frame are not arranged exactly opposite one another.

26. (New) Device according to claim 20, wherein the frame is formed by a silicon layer in which the cells are formed.

27. (New) Device according to claim 20, wherein the flexible diaphragm comprises at least a first layer, performing the function of a memory, and a second layer designed to ensure a certain rigidity.

28. (New) Device according to claim 27, wherein the second layer is an amorphous carbon or diamond-like carbon layer deposited on a silicon layer before formation of the cells is performed on the opposite face of the silicon layer.

29. (New) Device according to claim 28, wherein the second layer is doped by boron or silver.

30. (New) Device according to claim 20, wherein the flexible diaphragm comprises first and second elementary diaphragms separated by an array of spacer elements laterally offset with respect to the frame.

31. (New) Device according to claim 30, wherein the array of spacer elements constitutes an intermediate frame.

32. (New) Device according to claim 31, wherein the spacer elements are formed by studs.

33. (New) Device according to claim 20, comprising an array of flexible plates, separated from the diaphragm by a two-dimensional array of spacer studs and sub-dividing each cell into a plurality of elementary cells each associated with at least one microtip.

34. (New) Device according to claim 33, wherein the number of microtips of the array being about ten thousand, the number of elementary cells subdividing a cell is about one hundred.

35. (New) Device according to claim 33, wherein the array of microtips has a slightly different pitch from that of the array of spacer studs.

36. (New) Device according to claim 33, wherein the frame and plates are formed in a silicon layer having a thickness of 100µm to 500µm.

37. (New) Device according to claim 30, wherein the spacer elements or studs are made of silicon, silicon nitride or carbon, with a thickness of 50nm to 500nm.

38. (New) Device according to claim 20, comprising means for relative movement of the storage medium and of the microtip array, in a direction parallel to said plane.